

CLAIMS:

1. Pneumatic etching apparatus comprising:

5 means for entraining abrasive particles in a first part of a gas flow and propelling them against a surface to be etched; and

means for drawing spent particles and debris away from said surface, wherein said drawing means is powered by a second part of said gas flow.

10 2. Apparatus as claimed in claim 1, further comprising a shroud for containing said abrasive particles wherein said means for drawing spent particles away from said surface comprises a nozzle directing a gas flow away from said surface, thereby causing a reduced pressure within the shroud.

15 3. Apparatus as claimed in claim 2, wherein said gas flow is directed to an exhaust port via a convergent chamber communicating with the volume defined by the shroud.

20 4. Apparatus as claimed in either claim 2 or claim 3 further comprising means for allowing atmospheric air to enter said shroud close to said surface.

25 5. Apparatus as claimed in any one of claims 1 to 4, wherein said means for entraining said abrasive particles comprises:

a mixing chamber into which the gas flow draws the abrasive particles; and
a convergent-divergent blasting nozzle.

6. Apparatus as claimed in claim 5, wherein said blasting nozzle and the side walls of said mixing chamber form a single replaceable unit.

30 7. Apparatus as claimed in either claim 5 or claim 6, wherein said abrasive particles enter the mixing chamber via a path in a plane substantially perpendicular to the axis of the convergent divergent nozzle.

8. Apparatus as claimed in claim 7, wherein said path is formed from a channel on the outside of the mixing chamber wall.

5 9. Apparatus as claimed in any one of claims 1 to 8 further comprising a hopper for storing abrasive particles, said hopper including a particle outlet for providing abrasive particles to said means for entrainment and a particle inlet for receiving spent abrasive particles.

10 10. Apparatus as claimed in claim 9 wherein said particle outlet is supplied with particles via a valve biased by a spring and a gas flow in the particle inlet.